
MISSISSIPPI RECORDS OF *PLECTOPTERA PICTA* (BLATTODEA: BLATTELLIDAE) AND *ATAENIUS ROBUSTUS* (COLEOPTERA: SCARABAEIDAE)^{1,2}

J.R. MacDonald, R.L. Combs, Jr.³

ABSTRACT: *Plectoptera picta* (Blattodea: Blattellidae) and *Ataenius robustus* (Coleoptera: Scarabaeidae) are reported for the first time from Mississippi.

One specimen of the Neotropical cockroach, *Plectoptera picta* Saussure and Zehntner, was collected 6 Aug. 1986 at the White Sands unit of the Mississippi Agriculture and Forestry Experiment Station, 15 km W of Poplarville, Pearl River Co., Mississippi. This species, not previously known from Mississippi, has been reported from Texas, Louisiana, Virginia, North Carolina, Mexico, and Costa Rica (Nickle and Gurney, 1985). The specimen was collected near the base of a ca. 75 cm. dia. oak (*Quercus* sp.) in a pasture.

Twelve specimens of *Ataenius robustus* Horn, originally reported as *Ataenius* (sp. new) (MacDonald and Combs, 1985), were collected 15 km W of Starkville, Oktibbeha Co., Mississippi as follows: 14 Sept. (1), 25 Sept. (2), 1981; 28 April (1), 17 Aug. (1), 15 Sept. (1), 13 Oct. (1), 15 Oct. (3), 29 Oct. (1), 1 Nov. (1), 1982. Specimens were collected in a pasture from cowpats of the following ages: 4 hr. (1), 24 hr. (1), 48 hr. (3), 96 hr. (6), 168 hr. (1). This species is also a new record for Mississippi and has been reported from Arkansas, Illinois, Iowa, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, South Dakota, and Wisconsin (Cartwright, 1974). Voucher specimens of both species have been placed in the Mississippi Entomological Museum, Mississippi State University.

ACKNOWLEDGMENTS

The authors would like to thank D.A. Nickle, Systematic Entomology Laboratory, USDA, for determination of *P. picta* and Robert D. Gordon Systematic Entomology Laboratory, USDA, for determination of *A. robustus*. Further, the manuscript review provided by T. Schiefer, R. Brown and R. Luttrell is greatly appreciated.

¹Received January 17, 1989. Accepted April 5, 1989.

²Approved as assigned No.1 J-7003 by the Mississippi Agricultural and Forestry Experiment Station.

³Department of Entomology, Mississippi Agriculture and Forestry Experiment Station, Mississippi State University, Drawer EM, Mississippi State, MS 39762.

LITERATURE CITED

- Cartwright, O.L. 1974. *Ataenius*, *Aphotaenius*, and *Pseudataenius* of the United States and Canada (Coleoptera: Scarabacidae: Aphodiinae). Smithsonian Contrib. to Zool. No. 154
- MacDonald, J.R. and R.L. Combs. 1985. Scarabs collected from cattle feces in north-east Mississippi. J. Agric. Entomol. 2: 200-206.
- Nickle, D.A. and A.B. Gurney. 1985. Confirmation of the Neotropical cockroach *Plectoptera picta* Saussure and Zehntner in the United States (Blattodea: Blattellidae). Proc. Entomol. Soc. Wash. 87: 187-190.

SOCIETY MEETING OF APRIL 19, 1989

PHOTOGRAPHIC ESSAY ON SOME INSECT MATING SYSTEMS

By David Funk

Milkweed beetles come in pairs: they always seem to be mating. Certain stick insects have been reported to consort for three months. However, for most insects nuptial encounters are considerably shorter and less conspicuous. To observe them requires persistence and patience. To photograph them requires ingenuity as well. It was not voyeurism that attracted the largest attendance for a membership meeting in many years (19 members and 27 guests). It was primarily the expectation of seeing spectacular photographs of insects taken by David Funk, award-winning insect photographer and entomologist from the Stroud Water Research Center in Avondale, Pennsylvania. This expectation was fulfilled.

Whether by song, perfume, flashing lights or distinctive appearance, insects are able to attract and find mates. Much of this courtship activity occurs at twilight or at night when visual predators (and most entomologists and photographers) are least active. Because Dave has an interest in the nocturnal lives of insects, the audience was treated repeatedly to amazing behavior that is common but rarely observed. The song of crickets is familiar enough on late summer evenings but the encounters they initiate are not. After attracting a mate, the male tree cricket transfers a spermatophore to the female. The spermatophore not only contains sperm for fertilization but after mating it can be eaten by the female for nourishment. The size, number and sperm content of spermatophores vary in different species in relation to various male strategies to improve their mating success and to nourish females they have mated. From a pit near the base of their wings, some male tree crickets produce exudates for the female to feed upon in order to prolong mating and enhance the chances for fertilization. The bush cricket male sacrifices its wings in this endeavor.

For many insects reproduction is the primary goal of a short adulthood where little or no feeding occurs. Synchronous emergence in mayflies and cicadas is thought to saturate the appetite of available predators to insure that some individuals survive to reproduce. Sexual dimorphism reflects courtship behavior. Male mayflies, for example, have very large eyes that are used to see females at dusk. In moths where pheromones are produced, males have large antennae for detecting the attractants. Sometimes the roles are reversed as in scorpionflies that, after capturing a meal for two, produce a pheromone to attract a female. Predators that evolve to mimic these signals have an easy meal. Mr. Funk showed a picture of a bolas spider that emits the pheromone of a noctuid moth and feasts on the males of a couple of species.

(Continued on page 182)